



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0007; Project Identifier 2018-CE-048-AD]

RIN 2120-AA64

Airworthiness Directives; Viking Air Limited (Type Certificate Previously Held by Bombardier Inc. and de Havilland, Inc.) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Viking Air Limited (type certificate previously held by Bombardier Inc. and de Havilland, Inc.) Model DHC-6-400 airplanes. This proposed AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as corrosion of the fuel system components located in the fuel gallery due to inadequate corrosion protection. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Viking Air Limited Technical Support, 1959 de Havilland Way, Sidney, British Columbia, Canada, V8L 5V5; phone: (North America) (800) 663-8444; fax: (250) 656-0673; email: technical.support@vikingair.com; website: <https://www.vikingair.com/support/service-bulletins>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0007; or in person at the Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the MCAI, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Joseph Catanzaro, Aviation Safety Engineer, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7366; fax: (516) 794-5531; email: joseph.catanzaro@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2022-0007; Project Identifier 2018-CE-048-AD” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any

personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Joseph Catanzaro, Aviation Safety Engineer, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

Transport Canada, which is the aviation authority for Canada, has issued Canadian AD CF-2018-07, dated February 23, 2018 (referred to after this as “the MCAI”), to correct an unsafe condition on certain serial-numbered Viking Air Limited Model DHC-6-400 airplanes. The MCAI states:

There have been reports of corrosion affecting components of the fuel system that are located in the fuel gallery because of inadequate corrosion protection. This condition affects only aeroplanes operating on floats.

The effects of corrosion-related damage to fuel system components have included fuel leaks, electrical arcing, loss of fuel boost pump function and erroneous fuel quantity readings. Inaccurate fuel quantity indication and loss of fuel boost pump function can lead to fuel starvation followed by loss of engine power. Electrical arcing in the fuel gallery and loss of electrical bonding between fuel system components increases the risk of fire.

The MCAI requires repetitively inspecting the fuel gallery for corrosion, rectifying any deficiencies, and accomplishing modifications to the fuel gallery system.

You may examine the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0007.

FAA's Determination and Requirements of the Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA is issuing this NPRM after determining the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Viking DHC-6 Twin Otter Service Bulletin V6/0044, Revision 'B', dated September 13, 2021. The service information specifies incorporating multiple design improvement modifications in the fuel gallery.

The FAA also reviewed Temporary Revision No. 241, dated July 27, 2021, to the Viking DHC-6 Inspection Requirements Manual, PSM 1-6-7. Items 15.(1) and 15.(2) of this service information specifies rinsing and inspecting the entire fuel gallery for corrosion; removing corrosion; reapplying any protective finishes; and removing and replacing any damaged components. The temporary revision updates the fuel gallery inspection to include airplanes with a new fuel probe (Modification (MOD) 6/2395).

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA reviewed the following technical bulletins related to this NPRM, which contain instructions for the different modifications to components in the fuel gallery:

- Viking DHC-6 Twin Otter Technical Bulletin TBV6/00034, Revision NC, dated October 16, 2013 (MOD 6/2267);
- Viking DHC-6 Twin Otter Technical Bulletin TBV6/00084, Revision A, dated May 26, 2017 (MOD 6/2299);
- Viking DHC-6 Twin Otter Technical Bulletin V6/00099, Revision NC, dated

December 23, 2016 (MOD 6/2389);

- Viking DHC-6 Twin Otter Technical Bulletin. TBV6/00094, Revision NC, dated November 1, 2016 (MOD 6/2390);
- Viking DHC-6 Twin Otter Technical Bulletin. V6/00100, Revision NC, dated February 20, 2017 (MOD 6/2393); and
- Viking DHC-6 Twin Otter Technical Bulletin V6/00152, Revision NC, dated January 29, 2021 (MOD 6/2464).

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions described in the service information previously.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 4 airplanes of U.S. registry. The average labor rate is \$85 per work-hour.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per airplane	Cost on U.S. operators
Inspect fuel gallery	3 work-hours X \$85 per hour = \$255	Not applicable	\$255 per inspection cycle	\$1,020 per inspection cycle
MOD 6/2267 – Fuel boost pump EMI filter relocation	16 work-hours X \$85 per hour = \$1,360	\$4,762	\$6,122	\$12,244 (for 2 affected airplanes)
MOD 6/2299 – Improved fuel boost pump	17 work-hours X \$85 per hour = \$1,445	\$42,290	\$43,735	\$131,205 (for 3 affected airplanes)
MOD 6/2389 – Electrical Bonding Fuel System Manifold Drain Valve	18 work-hours X \$85 per hour = \$1,530	\$572	\$2,102	\$8,408 (for 4 affected airplanes)
MOD 6/2390 – Fuel probe, improved mating	20 work-hours X \$85 per hour = \$1,700	\$2,129	\$3,829	\$11,487 (for 3 affected airplanes)

electrical connection				
MOD 6/2393 – Fuel system manifold – drain valve	8 work-hours X \$85 per hour = \$680	\$225	\$905	\$3,620 (for 4 affected airplanes)
MOD 6/2464 - Fuel pressure switch replacement	10 work-hours X \$85 per hour = \$850	\$3,953	\$4,803	\$14,409 (for 3 affected airplanes)

On-Condition Costs

The extent of corrosion damage found during the inspections may vary significantly from airplane to airplane. The FAA has no way of determining how much corrosion damage may be found on each airplane, the cost for repairing corrosion damage on each airplane, or the number of airplanes that may require repair.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Viking Air Limited (type certificate previously held by Bombardier Inc. and de Havilland, Inc.): Docket No. FAA-2022-0007; Project Identifier 2018-CE-048-AD.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Viking Air Limited (type certificate previously held by Bombardier Inc. and de Havilland, Inc.) Model DHC-6-400 airplanes, serial numbers 845 through 957, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC) Code 2800, Aircraft Fuel System.

(e) Reason

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as corrosion of fuel system components located in the fuel gallery due to inadequate corrosion protection. The FAA is issuing this AD to prevent corrosion-related damage to fuel system components, which could lead to fuel leaks, electrical arcing, loss of fuel boost pump function, and erroneous fuel quantity readings. This unsafe condition, if not corrected, could result in fuel starvation with loss of engine power and increased risk of an in-flight fire with consequent loss of airplane control.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions for Airplanes Operating on Floats on the Effective Date of This AD

(1) Within 50 hours time-in-service (TIS) after the effective date of this AD or within 3 months after the effective date of this AD, whichever occurs first, and thereafter at intervals not to exceed 125 hours TIS, do the following actions:

(i) Remove all fuel gallery covers and rinse the fuel gallery with water.

(ii) Inspect the fuel gallery for corrosion and, if there is any corrosion, take all necessary corrective actions before further flight by following Item D.15(2) of Special Inspection 3 in Temporary Revision No. 241, dated July 27, 2021, to the Viking DHC-6 Inspection Requirements Manual, PSM 1-6-7.

(2) Within 12 months after the effective date of this AD, install the modifications applicable to your airplane serial number by following the Accomplishment Instructions, sections A. through E. in Viking Air Limited, DHC-6 Twin Otter Service Bulletin V6/0044, Revision 'B', dated September 13, 2021 (Viking SB V6/0044, Revision 'B').

(h) Required Actions for Airplanes Modified to Operate on Floats after the Effective Date of This AD

Within 12 months after the airplane is modified to operate on floats, regardless of whether the landing gear is later modified back to non-float landing gear, install the modifications applicable to your airplane serial number by following the Accomplishment Instructions, sections A. through E. in Viking SB V6/0044, Revision 'B.'

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Joseph Catanzaro, Aviation Safety Engineer, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7366; fax: (516) 794-5531; email: joseph.catanzaro@faa.gov.

(2) For service information identified in this AD, contact Viking Air Limited Technical Support, 1959 de Havilland Way, Sidney, British Columbia, Canada, V8L 5V5; phone: (North America) (800) 663-8444; fax: (250) 656-0673; email: technical.support@vikingair.com; website: <https://www.vikingair.com/support/service-bulletins>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

Issued on January 13, 2022.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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